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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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EXAMINER

NGUYEN, VINH P

ART UNIT

PAPER NUMBER

2829

DATE MAILED: 05/08/2002

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/761,792

Applicant(s)

SU ET AL.

Examiner

VINH P NGUYEN

Art Unit

2829

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 17 January 2001.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-20 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-20 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 2.
- 4) ☐ Interview Summary (PTO-413) Paper No(s). _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____

1. The title of the invention is not descriptive. A new title is required that is clearly indicative of the invention to which the claims are directed.

2. Claims 1-8,10,11-20 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

In claim 1, it is unclear what "a phase detection circuit" represents. Is it the same as "detector module (210)". In claim 2, it appears that the limitation of "an envelope detector coupled to the precision full wave rectifier (520)" is inaccurate since the envelope detector is connected to the clamp and gain (530) directly but not the precision full wave rectifier (520). In claim 4, it is unclear whether "the event detector" is the same as the "event detector and hold off circuit"? In claim 5, it appears that the limitation of "a multiplier coupled to the event detector" appears to be inaccurate since the multiplier (590) coupled directly to the even level setting (580) instead of the event detector and hold off (560). In claim 6, it appears that the limitation of "an event level setting circuit coupled between the event detector and hold off circuit and the multiplier" is inaccurate since the event level setting circuit coupled directly to the correction period & reset event detector". In claim 10, it appears that the sequential steps in this claim appears to be inaccurate and incomplete since it is necessary to clamp and gain the output signals from the rectifier. In claim 12, it is unclear which device is used for triggering an event

signal. In claim 13, it is unclear which device is used to delay the triggering of the event signal. In claims 15-16, it is unclear which device is used to detect an error signal of the probes and accumulating the error signal. In claim 19, it is unclear what "parachutting detection circuitry" and "parachutting reduction circuitry" are. In claim 20, it is unclear what "a phase detection circuit" represents.

The dependent claims not specifically address share the same indefiniteness as they depend from rejected base claims.

3. Claims 1-20 are rejected under 35 U.S.C. 112, first paragraph, as containing subject matter which was not described in the specification in such a way as to enable one skilled in the art to which it pertains, or with which it is most nearly connected, to make and/or use the invention.

It is unclear from the specification what "a phase circuit", a detector module" and "boost module" include. Are they well known in the art.

4. The drawings are objected to under 37 CFR 1.83(a). The drawings must show every feature of the invention specified in the claims. Therefore, the feature of the phase circuit must be shown or the feature(s) canceled from the claim(s). No new matter should be entered.

A proposed drawing correction or corrected drawings are required in reply to the Office action to avoid abandonment of the application. The objection to the drawings will not be held in abeyance.

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claims 1,9 and 19-20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Elings et al (Pat # 6,008,489 cited by Applicants on the PTO 1449).

As to claims 1,9 and 19-20, Elings et al disclose an AMF probe as shown in figure 1 having an oscillating probe (3), a phase detection circuit "displacement sensor (4)" for detecting a reduction of a variation of a phase signal from the probe and AFM control/computer (7) coupled to the phase sensor (4). It would have been obvious for one of ordinary skill in the art to consider that the computer (4) is equivalent to boosting circuit since this computer boosts a signal to the probe based on the phase signal detected by the detection circuit. It is also noted that the phase detection circuit (4) and the boosting circuit (7) are also read as "parachuting detection circuitry" and "parachuting reduction circuitry" respectively.

6. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Gemma et al (Pat # 5329236) disclose apparatus for estimating charged and polarized states of functional groups in a solution..

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6 Any inquiry concerning this communication or earlier communications from the examiner should be directed to VINH P. NGUYEN whose telephone number is (703) 305-4914.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the Group receptionist whose telephone number is (703) 305-4900.



VINH P. NGUYEN
PRIMARY EXAMINER
ART UNIT 2829

05/03/2002